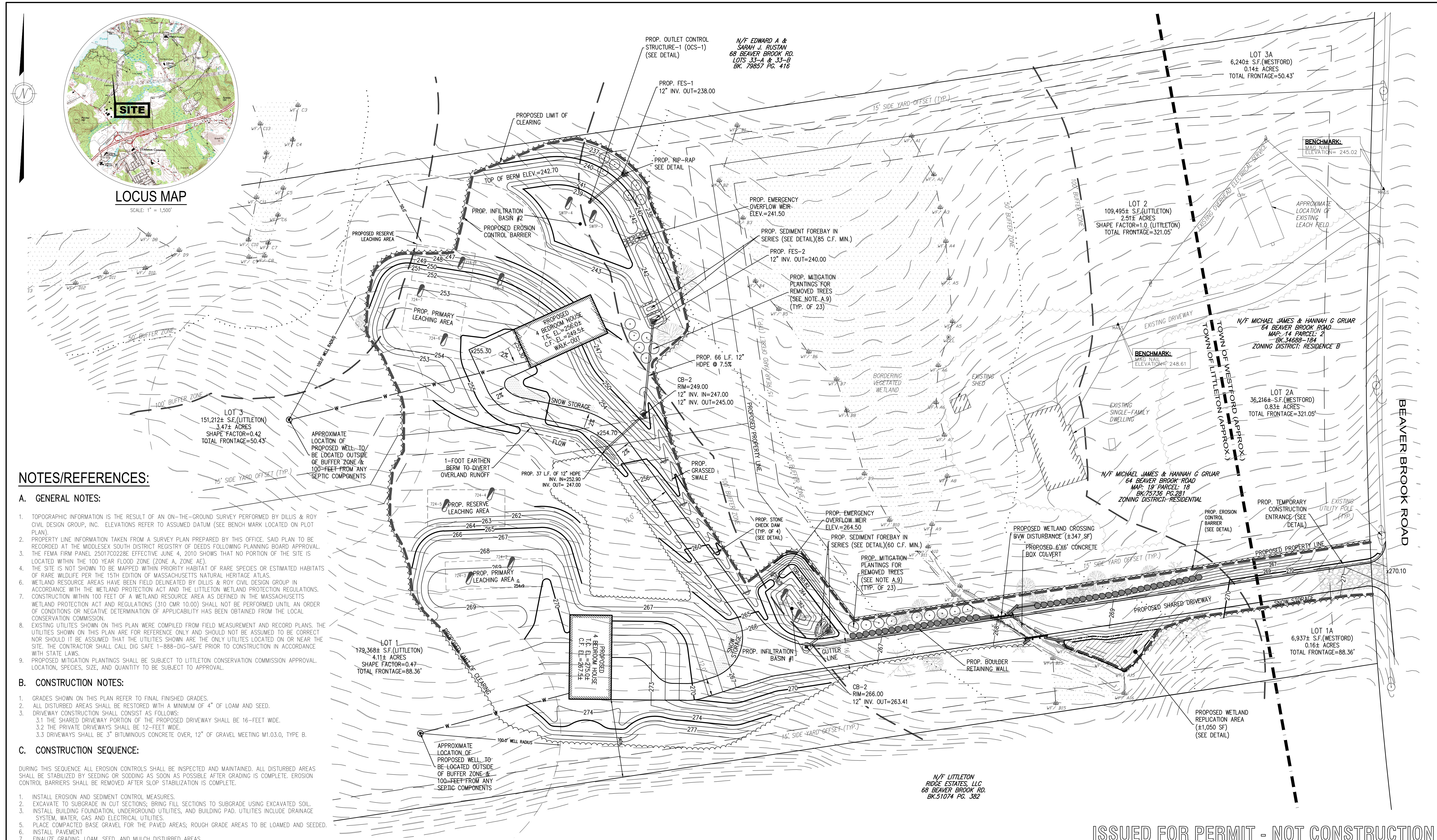




ISSUED FOR PERMIT - NOT CONSTRUCTION

PREPARED BY:



CIVIL ENGINEERS	LAND SURVEYORS	WETLAND CONSULTANTS
<u>CORPORATE OFFICE:</u>		<u>CONCORD OFFICE:</u>
1 MAIN STREET, SUITE 1	978-779-6091	100 MAIN ST., SUITE 310
LUNENBURG, MA 01462	www.dillisanndroy.com	CONCORD, MA 01742

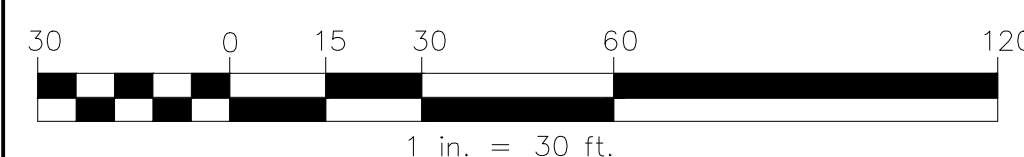
OWNER:

MICHAEL & HANNAH
GRUAR
64 BEAVER BROOK ROAD
LETON, MASSACHUSETTS 01460

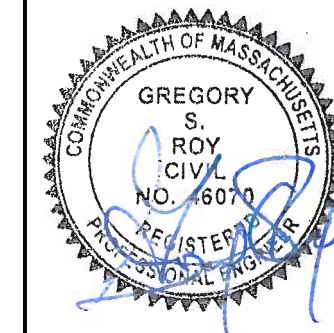
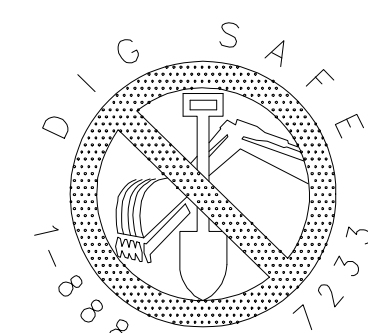
APPLICANT:

APPLICANT: MICHAEL & HANNAH
GRUAR
64 BEAVER BROOK ROAD
LITTLETON, MASSACHUSETTS 01460

SCALE:



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STAMP DATE: 09/15/2025

DATE:

02/11/25

DESIGN BY:

DRAWN BY:

CHECKED BY:

5	
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SHARED RESIDENTIAL DRIVEWAY PLAN
BEAVER BROOK RD. (M:R19 P:18)
LITTLETON, MASSACHUSETTS 01460

NO.	DATE	DESCRIPTION	BY
1.	6/18/25	REVISED PER CONSERVATION COMMISSION & DEP	RPV
2.	9/15/25	REVISED PER ENGINEERING PEER REVIEW	RPV

JOB NO.

7462

DRAWING NO.

74

SHEET NO. 4

1

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OF 4

EROSION CONTROL NOTES:

A. MANAGEMENT STRATEGIES:

- CONSTRUCTION SHALL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
- EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY DISTURBANCE ON SITE.
- AREAS WHICH ARE NOT TO BE DISTURBED SHALL BE CLEARLY MARKED BY FLAGS, SIGNS, ETC. RETAIN EXISTING VEGETATION WHERE FEASIBLE.
- THERE SHALL BE NO STORAGE OF ANY KIND OF ANY CHEMICALS, PESTICIDES, FUELS AND OTHER POTENTIALLY TOXIC OR HAZARDOUS MATERIALS ON SITE.
- NO DEBRIS, JUNK, RUBBISH OR OTHER WASTE MATERIALS SHALL BE BURIED ON THE SITE.
- STUMPS AND OTHER WOOD DEBRIS SHALL BE DISPOSED OF IN ACCORDANCE WITH THE "POLICY ON THE DISPOSAL OF WOODWASTES" PUBLISHED BY THE DEPARTMENT OF ENVIRONMENTAL AFFAIRS, DATED AUGUST 14, 1987.
- THE JOB SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES.

B. MAINTENANCE/ PERFORMANCE STANDARDS:

ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER EACH RAINFALL WITH AN ACCUMULATION OF 1/2" OR MORE. THE FOLLOWING ITEMS SHALL BE CHECKED IN PARTICULAR:

- THE SILT FENCE BARRIERS SHALL BE CHECKED REGULARLY FOR TEARS, DETERIORATION, AND UNDERMINING.
- ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE RESEED AS NEEDED.
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO THE PUBLIC ROAD. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 2 INCH STONE AS CONDITIONS DEMAND AND OR CLEANOUT/REPLACEMENT OF STONE IF CLOGGING OR SEDIMENTATION OCCURS. ALL MATERIALS SPILLED DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO THE TOWN ROAD MUST BE REMOVED DAILY BY SWEEPING OR OTHER SUITABLE MEANS.
- ALL AREAS ON SITE SUBJECT TO EROSION/SEDIMENTATION SHALL BE INSPECTED ON A REGULAR BASIS. ALL ITEMS SPECIFIED ON THIS AND OTHER PLANS SHALL BE INSPECTED TO VERIFY THAT THEY ARE OPERATING AS DESIGNED AND INTENDED. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO MAINTAIN AND REPAIR ALL STRUCTURES.
- THE ENTIRE DRAINAGE SYSTEM SHALL BE INSPECTED ON A REGULAR BASIS AND PRIOR TO AND IMMEDIATELY AFTER ANY RAINFALL EVENT WHILE THE SITE IS DISTURBED.
 - DRAINAGE SWALES DURING CONSTRUCTION SHALL BE INSPECTED MONTHLY FOR EROSION, SEDIMENT ACCUMULATION AND LEAF BUILDUP. ALL ERODED AREAS SHALL BE STABILIZED. SEDIMENT SHALL BE REMOVED AND LEAF LITTER REMOVED.
 - DEWATERING OF EXCAVATIONS DURING CONSTRUCTION SHALL BE ADDRESSED ON AN INDIVIDUAL BASIS AS NEEDED. IF TEMPORARY DEWATERING IS REQUIRED ON THE SITE OR IN CLOSE PROXIMITY TO THE 100 FT BUFFER ZONE, SEDIMENT BASINS SHALL BE CONSTRUCTED OR SILT TRAPS SHALL BE UTILIZED. SILT TRAPS AND SEDIMENT BASINS SHALL BE MAINTAINED DURING THE DEWATERING OPERATION.

C. TEMPORARY MEASURES:

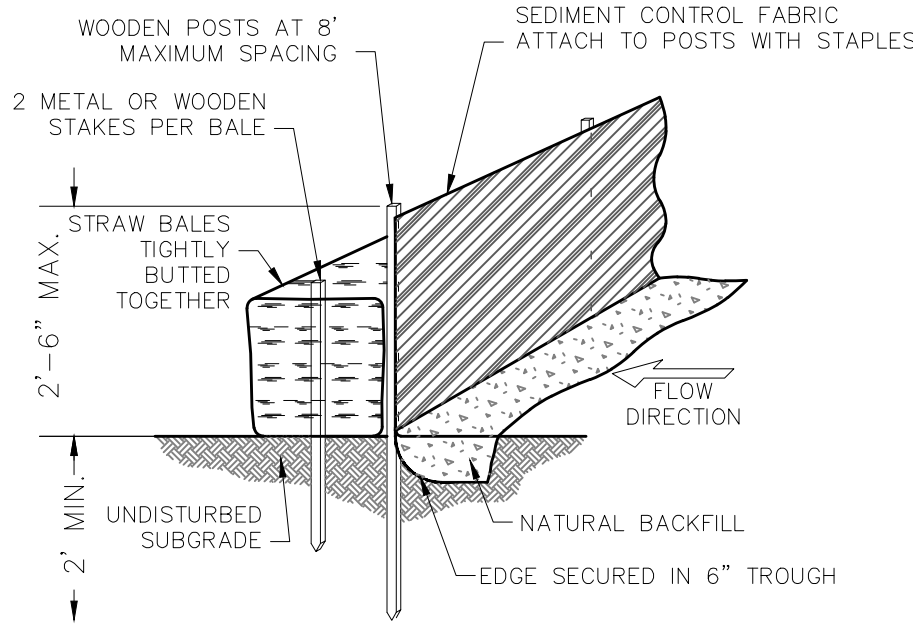
- PLACE SILT FENCE AND SILT FENCE WITH STRAW BALES AS SHOWN ON THE EROSION CONTROL PLAN.
- IF LOAM IS PLACED OUTSIDE OF THE NORMAL GROWING SEASON SILT FENCE OR STRAW WADDLES SHALL BE PLACED BETWEEN THE LAWN AREA AND PAVEMENT.
- CONSTRUCT TEMPORARY STONE PAD AT EXIT TO THE SITE AS SHOWN ON THE APPROVED PLAN. DURING DRY PERIODS, PROVIDE MEANS FOR MITIGATION OF DUST, SUCH AS WATERING OF EXPOSED AREAS.
- STOCKPILE LOCATIONS SHALL BE WITHIN THE PROPOSED LIMIT OF WORK. PLACE SILT FENCE AROUND ALL STOCK PILE AREAS. PILES LEFT FOR 21 DAYS OR MORE SHALL BE SEEDED OR COVER WITH PLASTIC SHEETING.
- WASTE DISPOSAL RECEPTACLES AND TRAILERS WILL BE USED FOR THE DISPOSAL OF CONSTRUCTION DEBRIS, WHICH WILL BE REMOVED FROM THE SITE ACCORDING TO STATE, LOCAL AND FEDERAL GUIDELINES. CONSTRUCTION DEBRIS WILL INCLUDE PAVEMENT, UTILITY, EARTH AND BUILDING MATERIALS THAT CANNOT BE REUSED. THE RECEPTACLES WILL BE LOCATED ON-SITE AND COVERED.
- PLACE STRAW BALES AROUND CATCH BASINS AND OTHER STORM DRAIN INLETS AFTER CONSTRUCTED. CATCH BASIN INSERTS MAY BE USED IN AREAS WHERE MANEUVERABILITY AROUND APPURTENANCES IS AN ISSUE.
- IN ADDITION TO WHAT IS DEPICTED ON THE PLANS, SILT FENCE SHALL BE PLACED DOWN GRADIENT (UP-GRADE) OF ANY STORM WATER APPURTENANCES, WETLAND BUFFER ZONES AND AREAS TO BE LEFT UNDISTURBED) TO EACH STRUCTURE DURING THE CONSTRUCTION PROCESS UNTIL THE DISTURBED AREA IS RESTORED.

D. PERMANENT STABILIZATION:

- SLOPES IN EXCESS OF 3 TO 1 SHALL BE HYDRO-MULCHED, LOAMED (6" MIN.) AND SEEDED SLOPES WILL BE PROTECTED FROM WASHOUT BY MULCHING OR OTHER ACCEPTABLE SLOPE PROTECTION UNTIL VEGETATION IS ESTABLISHED.
- SLOPES STEEPER THAN 3 TO 1 SHALL BE RESTORED WITH 6" OF LOAM (MIN.), SEED, FERTILIZER AND STAKED DOWN EROSION CONTROL BLANKET (NORTH AMERICAN GREEN SC 150 BN, OR EQUAL). INSTALL IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS.
- THE TEMPORARY MEASURES WILL NOT BE REMOVED UNTIL PERMANENT STABILIZATION HAS OCCURRED.
- DESIGNATED RECHARGE AREAS SHALL BE PROTECTED FROM COMPACTION OF SOILS DURING AND AFTER CONSTRUCTION.

E. DEWATERING:

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEWATERING OPERATIONS DURING CONSTRUCTION.
- DEWATERING SHALL BE PREFORMED TO ACHIEVE CONSTRUCTION OF FOOTINGS, FOUNDATIONS, PAVEMENTS, AND OTHER SUBSURFACE UTILITIES AND APPURTENANCES IN DRY CONDITIONS.
- DEWATERING SHALL BE PERFORMED THROUGH THE USE OF IN TRENCH SUMP PUMPS, WELLS, DRAINS AND OTHER ITEMS NECESSARY FOR CONSTRUCTION. CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, OPERATE AND REMOVE ALL DEWATERING DEVICES AND APPURTENANCES AS REQUIRED FOR CONSTRUCTION. SUCH ACTIVITIES SHALL BE INCLUDED IN THE CONTRACTORS BID.



EROSION CONTROL BARRIER

NOT TO SCALE

BUFFER ZONE CALCULATIONS

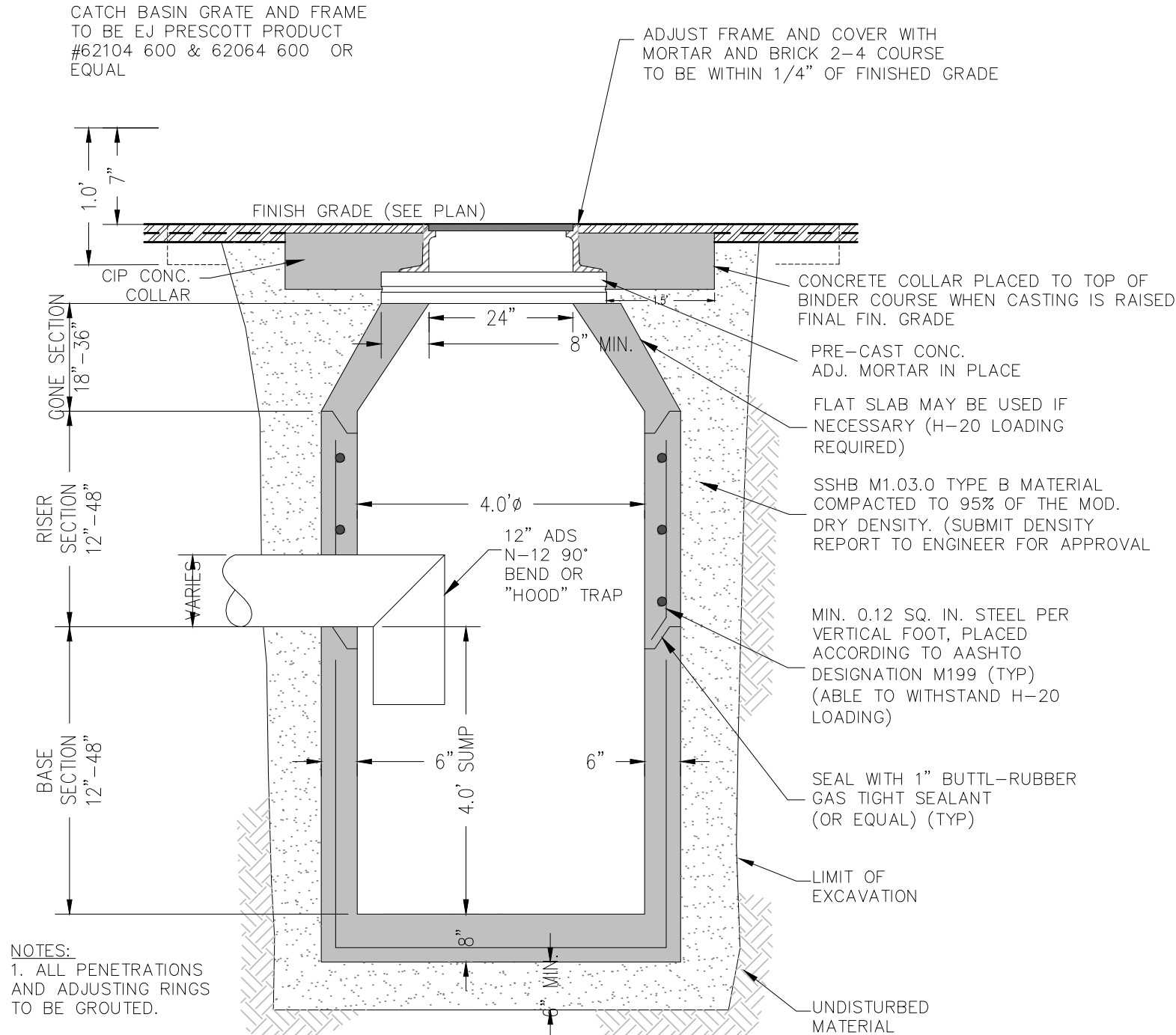
LOT 1 DESCRIPTION	VALUE
100-FOOT BUFFER ZONE	5,540 SF OF DISTURBANCE
50-FOOT BUFFER ZONE	5,524 SF OF DISTURBANCE
BORDERING VEGETATED WETLAND	347 SF OF DISTURBANCE (NO FILL)
PROP. WETLAND REPLICATION	1,050 SF OF MITIGATION

*100-FOOT BUFFER ZONE INCLUDES 1,756 SF OF AREA DESIGNATED FOR STORMWATER MANAGEMENT

LOT 3 DESCRIPTION	VALUE
100-FOOT BUFFER ZONE	7,425 SF OF DISTURBANCE
50-FOOT BUFFER ZONE	0 SF OF DISTURBANCE
BORDERING VEGETATED WETLAND	0 SF OF DISTURBANCE

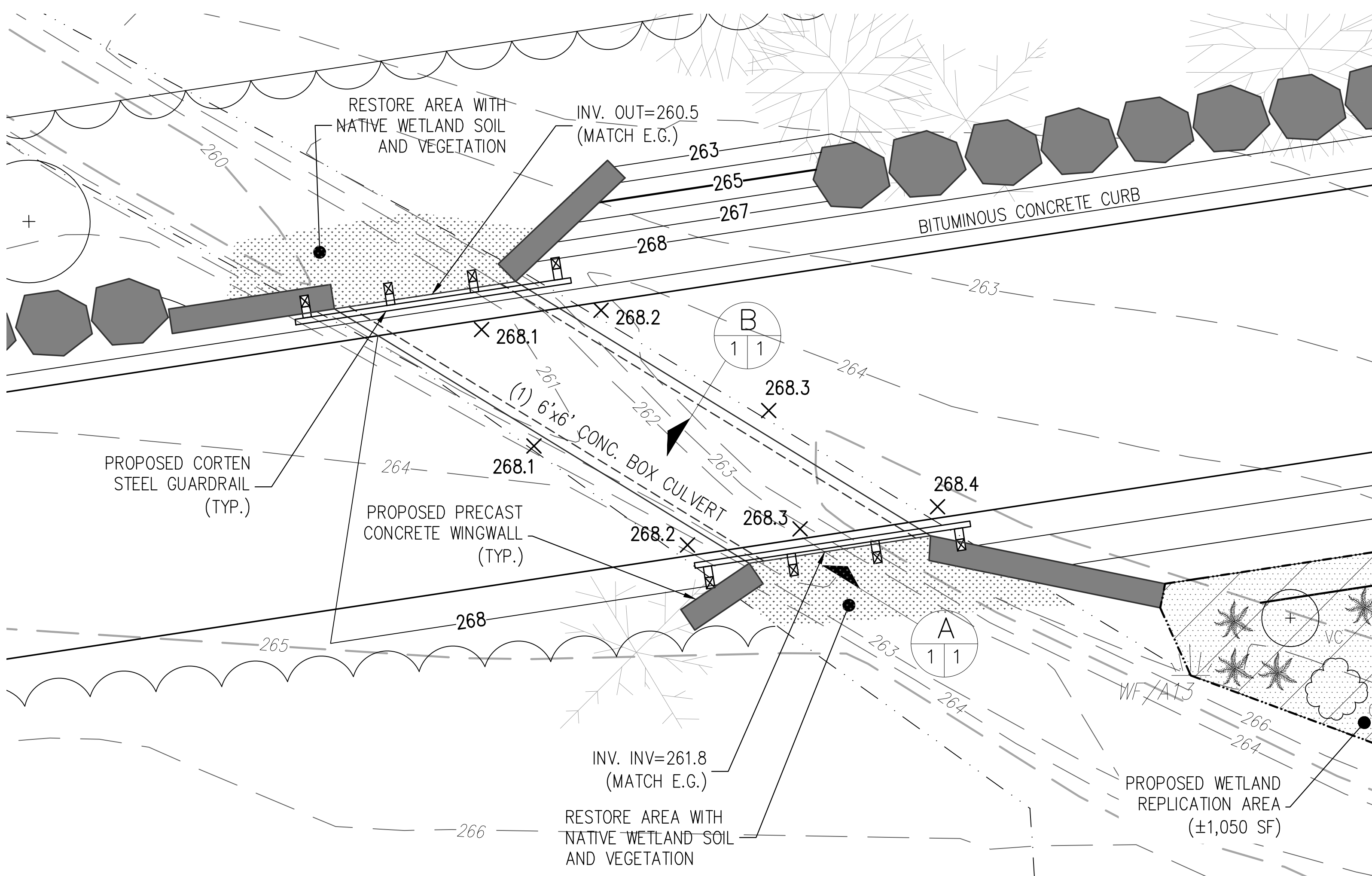
*100-FOOT BUFFER ZONE INCLUDES 5,526 SF OF AREA DESIGNATED FOR STORMWATER MANAGEMENT

SOIL TEST DATA							NAME OF SOIL EVALUATOR: DILLIS & ROY CIVIL DESIGN GROUP	
							WILLIAM J. "JACK" MALONEY, JR. (SE-13704)	
DEEP TEST PIT: SWTP-1	DEPTH	HOR.	TEX.	COLOR	MOTT.	G.W.	OTHER	
DATE OF TEST: 9/11/25	0-4"	A	S.L.	10YR 4/3	NONE	NONE	CRUMB, FRABLE	
REFUSAL AT: NONE	4-14"	B	L.S.	10YR 5/6	NONE	NONE	S.A.B., FRABLE	
OBSERVED	14-36"	C	L.S.	10YR 7/6	NONE	NONE	GRANULAR, FRM	
(SURFACE ELEV. = 264.34)								
ESTIMATED SEASONAL HIGH GROUND WATER							> 36" (ELEVATION = >261.34)	
DEEP TEST PIT: SWTP-2	DEPTH	HOR.	TEX.	COLOR	MOTT.	G.W.	OTHER	
DATE OF TEST: 9/11/25	0-6"	A	S.L.	10YR 4/3	NONE	NONE	CRUMB, FRABLE	
REFUSAL AT: NONE	6-12"	B	L.S.	10YR 5/6	NONE	NONE	S.A.B., FRABLE	
OBSERVED	12-36"	C	L.S.	10YR 7/6	NONE	NONE	GRANULAR, FRM	
(SURFACE ELEV. = 263.14)								
ESTIMATED SEASONAL HIGH GROUND WATER							> 36" (ELEVATION = >261.14)	
DEEP TEST PIT: SWTP-3	DEPTH	HOR.	TEX.	COLOR	MOTT.	G.W.	OTHER	
DATE OF TEST: 9/11/25	0-4"	A	S.L.	10YR 4/3	NONE	NONE	CRUMB, FRABLE	
REFUSAL AT: NONE	4-11"	B	L.S.	10YR 5/6	NONE	NONE	S.A.B., FRABLE	
OBSERVED	11-32"	C	L.S.	2.5YR 7/3	Ø 29"	NONE	GRANULAR, FRM	
(SURFACE ELEV. = 239.14)								
ESTIMATED SEASONAL HIGH GROUND WATER							AT 29" (ELEVATION = 236.64)	
DEEP TEST PIT: SWTP-4	DEPTH	HOR.	TEX.	COLOR	MOTT.	G.W.	OTHER	
DATE OF TEST: 9/11/25	0-6"	A	S.L.	10YR 4/3	NONE	NONE	CRUMB, FRABLE	
REFUSAL AT: NONE	6-13"	B	L.S.	10YR 5/6	NONE	NONE	S.A.B., FRABLE	
OBSERVED	13-34"	C	L.S.	2.5YR 7/3	Ø 31"	NONE	GRANULAR, FRM	
(SURFACE ELEV. = 239.24)								
ESTIMATED SEASONAL HIGH GROUND WATER							AT 31" (ELEVATION = 236.64)	
DEEP TEST PIT: 724-2	DEPTH	HOR.	TEX.	COLOR	MOTT.	G.W.	OTHER	
DATE OF TEST: 7/11/24	0-8"	A	S.L.	10YR 3/4	NONE	NONE	CRUMB, FRABLE	
REFUSAL AT: NONE	8-24"	B	S.L.	10YR 5/6	NONE	NONE	S.A.B., FRABLE	
OBSERVED	24-36"	C1	L.S.	2.5Y 6/2	Ø 36"	NONE	GRANULAR, FRM	
(SURFACE ELEV. = 264.54)								
ESTIMATED SEASONAL HIGH GROUND WATER							AT 36" (ELEVATION = 261.54)	
DEEP TEST PIT: 724-3	DEPTH	HOR.	TEX.	COLOR	MOTT.	G.W.	OTHER	
DATE OF TEST: 7/11/24	0-10"	A	S.L.	10YR 3/4	NONE	NONE	CRUMB, FRABLE	
REFUSAL AT: NONE	10-20"	B	S.L.	10YR 5/6	NONE	NONE	S.A.B., FRABLE	
OBSERVED	20-72"	C1	L.S.	2.5Y 6/2	Ø 36"	NONE	GRANULAR, FRM	
(SURFACE ELEV. = 265.04)							Ø 108"	
ESTIMATED SEASONAL HIGH GROUND WATER							AT 36" (ELEVATION = 262.04)	
DEEP TEST PIT: 724-4	DEPTH	HOR.	TEX.	COLOR	MOTT.	G.W.	OTHER	
DATE OF TEST: 7/11/24	0-8"	A	S.L.	10YR 3/4	NONE	NONE	CRUMB, FRABLE	
REFUSAL AT: NONE	8-24"	B	S.L.	10YR 5/6	NONE	NONE	S.A.B., FRABLE	
OBSERVED	24-72"	C1	L.S.	2.5Y 6/2	Ø 48"	NONE	GRANULAR, FRM	
(SURFACE ELEV. = 260.04)							Ø 120"	
ESTIMATED SEASONAL HIGH GROUND WATER							AT 48" (ELEVATION = 256.04)	
DEEP TEST PIT: 724-5	DEPTH	HOR.	TEX.	COLOR	MOTT.	G.W.	OTHER	
DATE OF TEST: 7/11/24	0-8"	A	S.L.	10YR 3/4	NONE	NONE	CRUMB, FRABLE	
REFUSAL AT: NONE	8-30"	B	S.L.	10YR 5/6	NONE	NONE	S.A.B., FRABLE	
OBSERVED	30-84"	C1	L.S.	2.5Y 6/2	Ø 36"	NONE	GRANULAR, FRM	
(SURFACE ELEV. = 261.04)								
ESTIMATED SEASONAL HIGH GROUND WATER							AT 36" (ELEVATION = 258.04)	
DEEP TEST PIT: 724-6	DEPTH	HOR.	TEX.	COLOR	MOTT.	G.W.	OTHER	
DATE OF TEST: 7/11/24	0-8"	A	S.L.	10YR 3/2	NONE	NONE	CRUMB, FRABLE	
REFUSAL AT: NONE	8-20"	B	S.L.	10YR 5/6	NONE	NONE	S.A.B., FRABLE	
OBSERVED	20-108"	C	L.S.	2.5Y 6/2	Ø 36"	NONE	GRANULAR, FRM	
(SURFACE ELEV. = 251.54)								
ESTIMATED SEASONAL HIGH GROUND WATER							AT 36" (ELEVATION = 248.54)	
DEEP TEST PIT: 724-7	DEPTH	HOR.	TEX.	COLOR	MOTT.	G.W.	OTHER	
DATE OF TEST: 7/11/24	0-8"	A	S.L.	10YR 3/4	NONE	NONE	CRUMB, FRABLE	
REFUSAL AT: NONE	8-24"	B	S.L.	10YR 5/6	NONE	NONE	S.A.B., FRABLE	
OBSERVED	24-96"	C	L.S.	2.5Y 6/2	Ø 36"	NONE	GRANULAR, FRM	
(SURFACE ELEV. = 249.04)								
ESTIMATED SEASONAL HIGH GROUND WATER							AT 36" (ELEVATION = 246.04)	
DEEP TEST PIT: 724-8	DEPTH	HOR.	TEX.	COLOR	MOTT.	G.W.	OTHER	
DATE OF TEST: 7/11/24	0-8"	A	S.L.	10YR 3/2	NONE	NONE	CRUMB, FRABLE	
REFUSAL AT: NONE	8-24"	B	S.L.	10YR 5/6	NONE	NONE	S.A.B., FRABLE	
OBSERVED	24-108"	C1	L.S.	2.5Y 6/2	Ø 36"	NONE	GRANULAR, FRM	
(SURFACE ELEV. = 246.04)								
ESTIMATED SEASONAL HIGH GROUND WATER							AT 36" (ELEVATION = 243.04)	
DEEP TEST PIT: 724-9	DEPTH	HOR.	TEX.	COLOR	MOTT.	G.W.	OTHER	
DATE OF TEST: 7/11/24	0-8"	A	S.L.	10YR 3/4	NONE	NONE	CRUMB, FRABLE	
REFUSAL AT: NONE	8-30"	B	S.L.	10YR 5/6	NONE	NONE	S.A.B., FRABLE	
OBSERVED	30-100"	C	L.S.	2.5Y 6/2	Ø 36"	NONE	GRANULAR, FRM	
(SURFACE ELEV. = 246.54)								
ESTIMATED SEASONAL HIGH GROUND WATER							AT 36" (ELEVATION = 243.54)	



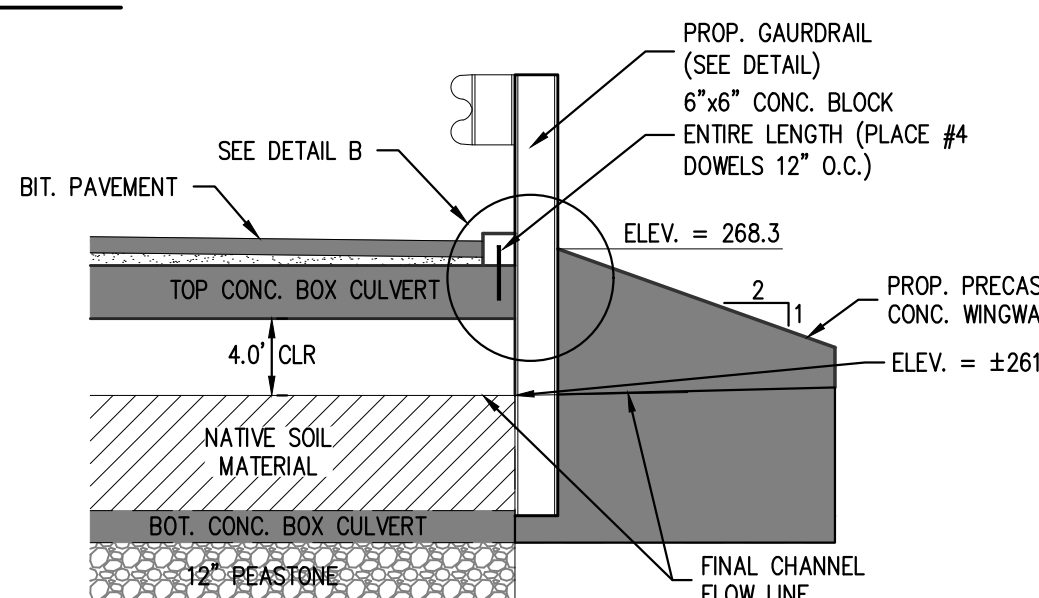
DEEP SUMP CONCRETE CATCH BASIN

NOT TO SCALE



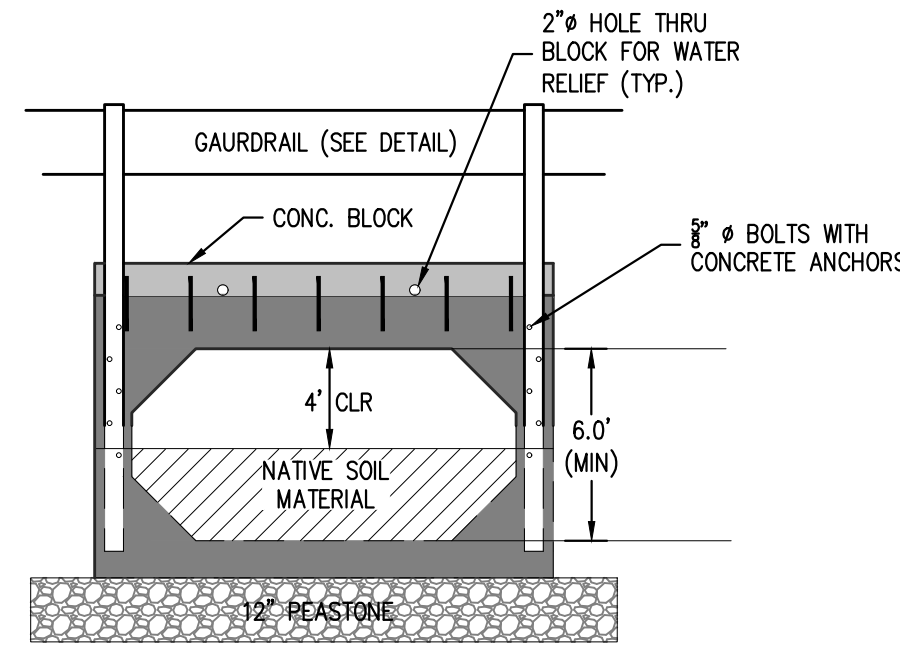
WETLAND CROSSING INSET "A"

SCALE: 1"=5'



SECTION A

SCALE: 1"=3'



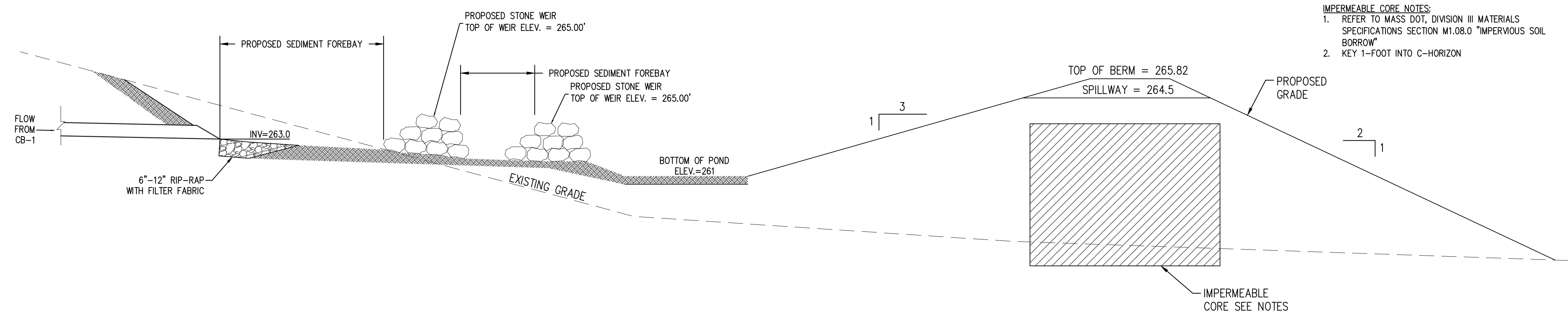
SECTION B

SCALE: 1"=3'

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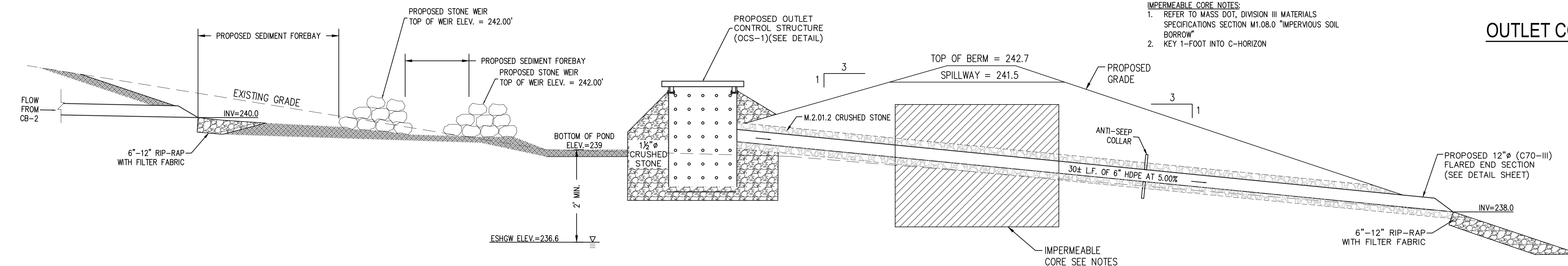
PREPARED BY:

DILLIS & ROY



INFILTRATION BASIN #1 BERM CROSS-SECTION DETAIL

NOT TO SCALE

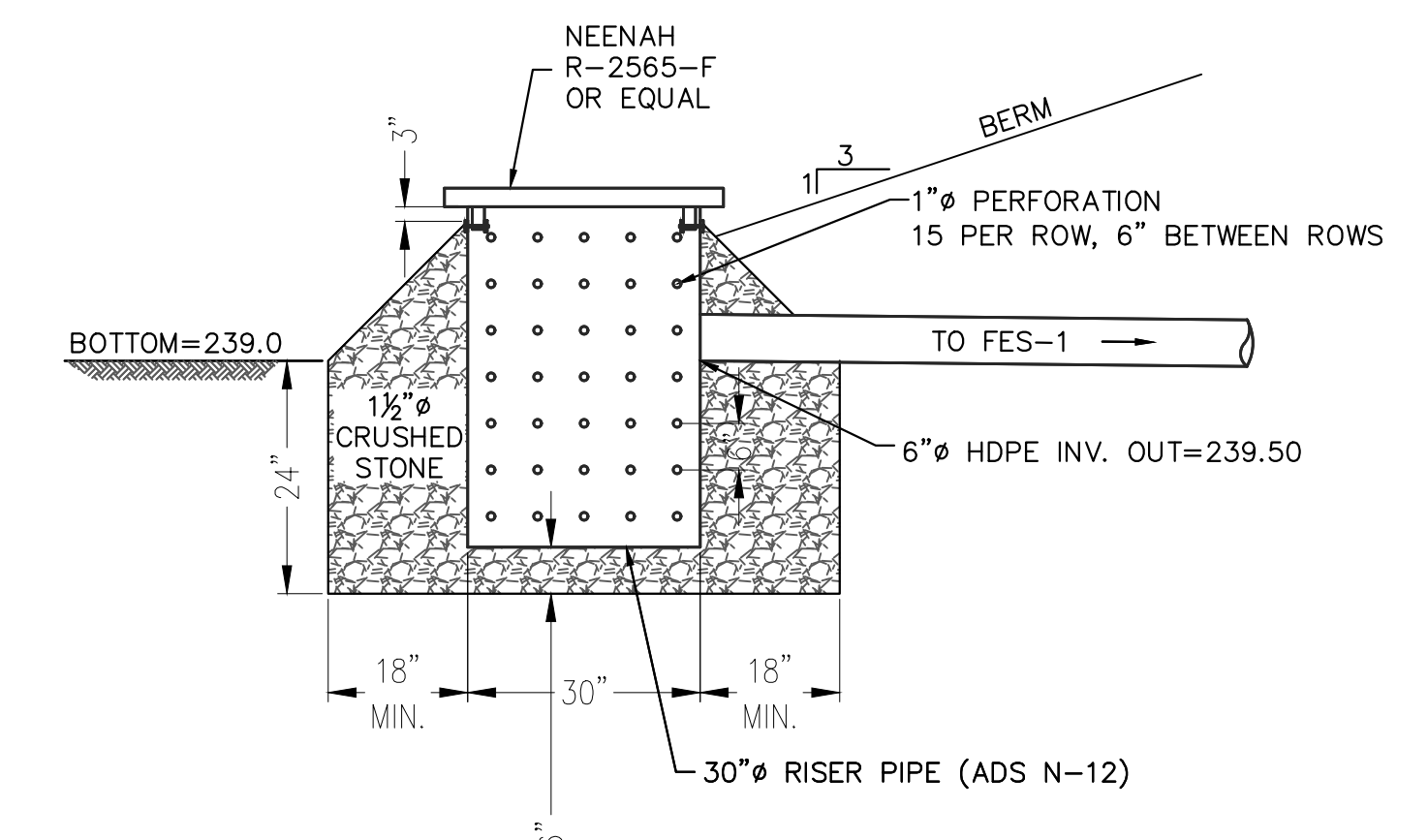


INFILTRATION BASIN #2 BERM CROSS-SECTION DETAIL

NOT TO SCALE

- IMPERMEABLE CORE NOTES:
1. REFER TO MASS DOT, DIVISION III MATERIALS SPECIFICATIONS SECTION M1.08.0 "IMPERVIOUS SOIL BORROW"
 2. KEY 1-FOOT INTO C-HORIZON

- IMPERMEABLE CORE NOTES:
1. REFER TO MASS DOT, DIVISION III MATERIALS SPECIFICATIONS SECTION M1.08.0 "IMPERVIOUS SOIL BORROW"
 2. KEY 1-FOOT INTO C-HORIZON



OUTLET CONTROL STRUCTURE DETAIL (OCS-1)

SCALE: 1" = 2'

ISSUED FOR PERMIT - NOT CONSTRUCTION

PREPARED BY:

DILLIS & ROY
CIVIL DESIGN GROUP

CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS

CORPORATE OFFICE:
1 MAIN STREET, SUITE 1
LUNENBURG, MA 01462

978-779-6091
www.dillisoroy.com

CONCORD OFFICE:
100 MAIN ST., SUITE 310
CONCORD, MA 01742

OWNER:

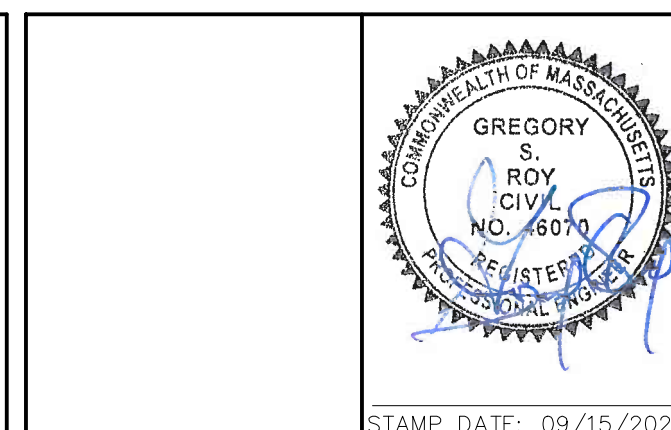
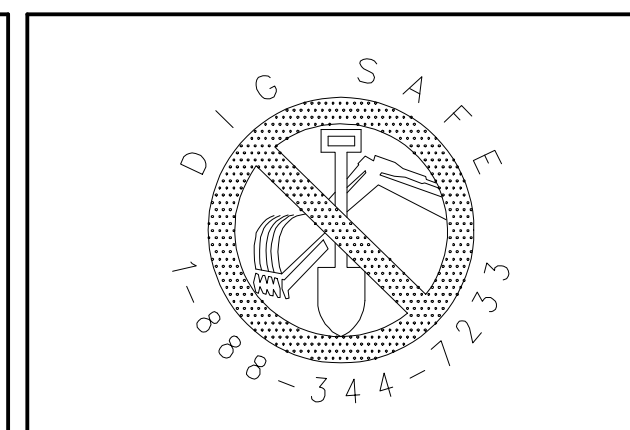
MICHAEL & HANNAH
GRUAR
64 BEAVER BROOK ROAD
LITTLETON, MASSACHUSETTS 01460

APPLICANT:

MICHAEL & HANNAH
GRUAR
64 BEAVER BROOK ROAD
LITTLETON, MASSACHUSETTS 01460

SCALE:

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DATE:
02/11/25

DESIGN BY:
RPV

DRAWN BY:
RPV

CHECKED BY:
GSR

CONSTRUCTION DETAILS BEAVER BROOK RD. (M:R19 P:18) LITTLETON, MASSACHUSETTS 01460				
NO.	DATE	DESCRIPTION	BY	
1.	6/18/25	REVISED PER CONSERVATION COMMISSION & DEP	RPV	
2.	9/15/25	REVISED PER ENGINEERING PEER REVIEW	RPV	

JOB NO.
7462

DRAWING NO.
7462-SP

SHEET NO.
4
OF 4